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FRESH VEGETABLES IN TIMOR-LESTE

MARKET RESEARCH RESULTS FROM DILI, TIMOR-LESTE 2012



JULY 2013

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Fresh Vegetable Market Research Results

Dili, Timor-Leste 2012

I. Introduction

Dezenvolve Agricultura Comunitária (DAC) is a USAID funded project implemented by DAI. DAC has been working in the horticulture sector since 2010. The DAC project objectives are:

- To improve the economic and social well-being of farm households through vegetable farming
- To develop the fresh vegetable value chain in Timor-Leste

In order to support sustainable development of the fresh vegetable value chain, it is important to understand the domestic market for fresh vegetables. Producers, traders and vendors need to know which vegetables are being produced and sold, what quantities are available and how prices vary during different seasons, and what the consumer demand is for vegetable quantity, quality, and price. This information can help the private sector to identify business and investment opportunities, and can help the government and NGO/donor projects to provide the right types of assistance to upgrade the fresh vegetable value chain.

II. Overview

In 2012, the DAC project conducted intensive market research in five outdoor markets in Dili: Becora, Comoro, Hali-laran, Taibessi and Seaside (Lecidere). The research was conducted during rainy season (February) and dry season (August). Using a standard questionnaire, researchers collected data about the quantity, value, and district origin of fresh vegetables for sale in the Dili outdoor markets. Demographic data about the vendors, and information about how they conducted their business was also documented.

DAC has created a database, designed by Catalpa International, to store and analyze the data. The database is available on CD from DAC or from the Ministry of Agriculture and Fisheries, and can be used on any computer without any additional software. DAC has also created a manual describing the market research methodology and how to use the database for other research. The same methodology and database could be used to conduct research on any fresh food product.

The market research had 4 components:

1. Research about the fresh vegetable market was conducted in 5 outdoor markets in Dili. In the first phase (rainy season/February) 309 vendors were identified and 263 participated in the survey. In the second phase (dry season/August) 315 vendors were identified and 270 participated in the survey. Therefore, 85% of all vendors from the 5 main outdoor markets were included in the research. The first component of the research collected information about:
 - a. The quantity of 46 different vegetables that was available for sale during one day (a “snapshot” of the total vegetable inventory), during rainy season and dry season. With this information, we can estimate the total annual vegetable inventory (using the rainy season one-day total multiplied by 182.5 days and the dry season one-day total multiplied by 182.5 days)
 - b. Wholesale price for each vegetable the vendor had for sale

- c. Retail price for each vegetable the vendor had for sale
 - d. The origin of the vegetables according to the vendors' knowledge, by District or import
 - e. Information about the business, such as whether the vendor bought from a trader or from another vendor, whether they had a regular supplier, or simply purchased on the spot market, and whether the vendor used credit
2. The second component of the research gathered more extensive information from a representative sample of vendors. The sample was selected according to size (defined by the vendors' reported average weekly inventory purchases) and market location. During rainy season the sample contained 24 vendors and during dry season it contained 28. Researchers observed and measured the vendors' daily inventory purchases and sales during one week. This gave us more information about the vendors inventory turn-over. It also provided a "cross check" to compare to the results from the one day snapshot.

Using the data from component one and component two, we calculated two different estimates of the total annual sales of vegetables in the Dili market. We found a 34% difference between these two estimates: weekly survey data resulted in an annual total of 9.3 tonnes, while the one-day survey resulted in an annual total of 6.1 tonnes. Although the results were not as close as we would have liked, it still gave us a certain level of confidence in using our results to draw general conclusions about the fresh vegetable market in Timor Leste.

The estimate based on the weekly survey was 34% larger than the estimate from the one-day snapshot. We believe that the one week study is probably more accurate, since it tracked all sales while the one-day survey only tracked inventory at one point during the day. Some explanations for the 34% difference include:

- a. The one day "snapshot" underrepresented the actual vegetable sales, since it only measured the inventory available at one time during one day
 - b. Vendors did not accurately estimate their average weekly inventory purchases, making it impossible to draw a true representative sample
 - c. Neither study accurately measured wastage, so it was included inconsistently
 - d. Sales vary from day to day, so using the "one day snapshot" to calculate an annual estimated total will not be accurate.
3. The third component of the research compared the domestic production with imported fresh vegetables. Information from the Ministry of Finance Directorate General of Customs showed that during 2010-2011, Timor-Leste imported 10,288,194 kg (10,000 tonnes) of fresh vegetables.
4. The fourth component of the research surveyed cart vendors. Their total inventory was measured at the start of the day and at the end of the day. This data was not included in the calculations of estimates for two reasons:
 - a. Cart vendors buy their inventory from retail market vendors, so it was assumed that their inventory/sales were already included from the survey of the retail vendors
 - b. The total number of cart vendors was unknown

III. Methodology

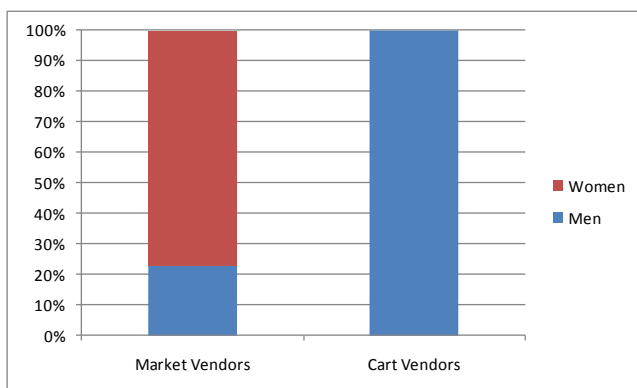
Initial visits were made to all outdoor markets to introduce the project and explain the survey objectives. Vendors from each market were identified to assist DAC with the design and pilot test of the survey questionnaire (see attached), and to help promote participation by their colleagues.

A major challenge was the difficulty of working with the normal sales units, such as piles, bunches, or buckets. In order to make meaningful comparisons and analysis, we had to convert those units into kilos. The research team collected samples of the standard units for sale, from all the markets. These samples were weighed, and an average weight was assigned for each unit. For example, a pile of chilis weighed 100 grams. If vegetables were sold by the individual piece, a sample of pieces was collected and weighed in order to assign an average weight. These average weights were used to convert all of the data collected into kilograms. Interestingly, during both the rainy and dry seasons, the units at Tasi Ibun market were consistently larger than at the other markets.

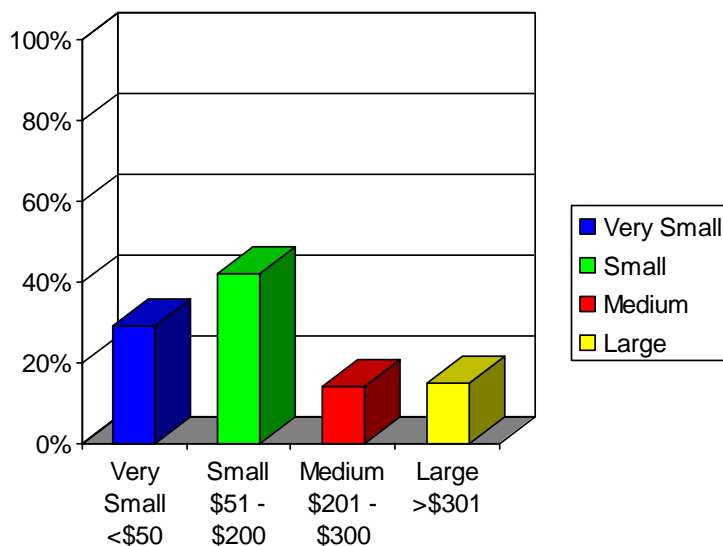
Surveys were conducted throughout the day, which impacted the results of the “one day snapshot”, since that snapshot was taken at different times during the morning, between 4am-12pm. The surveyors interviewed the vendor about her inventory purchases, and they counted the number of units of each vegetable available for sale. The data was converted to kilograms using a standardized Excel spreadsheet. The data in kilograms was entered into the database.

IV. Demographic Information

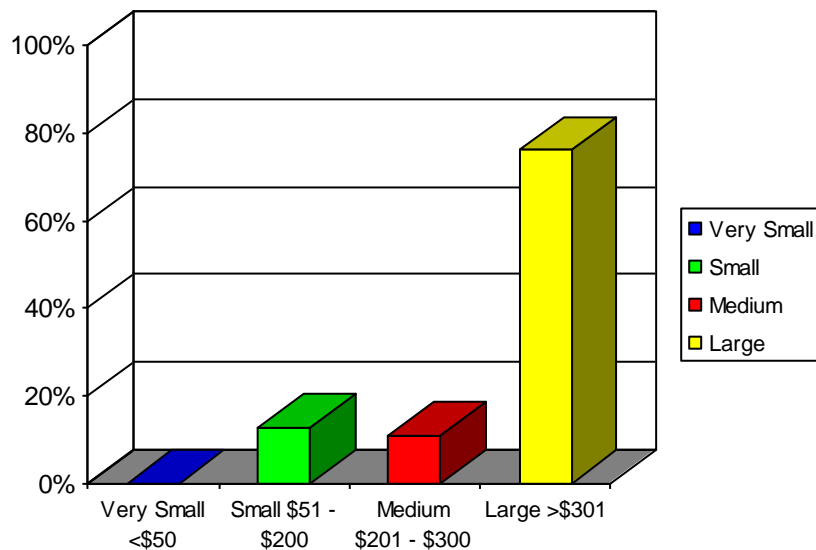
4.1 77% of outdoor market vendors are women, and 100% of cart/stick vendors are men.



4.2 The following chart illustrates the range of business sizes found in each market, according to the vendors own reporting, combining results from wet season and dry season. Business size describes the average inventory purchases per week, ranging from very small at less than \$50 per week to large at over \$300 per week.



However, the in-depth market research, which measured the actual inventory purchases and retail sales of a representative sample of vendors, showed a very different result. The table below shows the results from 46 vendors, combining results from wet season and dry season and from all markets:



V. Market Research Analysis

The analysis below is based on the results of the one day “snapshot” survey. As discussed above, we believe the total kilo results from the weekly survey, 9314 tonnes per year, are probably closer to reality than the 6134 tonnes estimated using the one day survey. However, the two surveys did not show differences in the relative percentages of wet season vs. dry season, or the distribution of different vegetables. Since the one day survey used a much larger sample size, we are using those results to analyze the market.

5.1 Estimate of total quantity and value of fresh vegetables in the market

The tables below show the estimated quantities and value of vegetables available for sale in the outdoor markets in Dili during one year. These estimates are calculated using the “one day snapshot” taken during rainy season and dry season, and multiplying each by 182.5 days (6 months). These totals include domestically produced and imported fresh vegetables. Sales are twice as high during rainy season as during dry season.

5.1.1 Annual estimate:

Merkadu	Kg	(\$)
Becora	258,153.55	\$ 244,493.43
Comoro	1,055,432.05	\$ 1,443,392.50
Hali-laran	3,586,990.05	\$ 4,280,086.73
Taibessi	517,655.78	\$ 504,121.58
Tasi ibun (Lecidere)	715,796.03	\$ 1,353,790.48
Total	6,134,018.45	\$ 7,825,884.70

5.1.2 Estimate rainy season only:

Merkadu	Kg	(\$)
Becora	169,752.38	\$ 157,888.05
Comoro	669,490.30	\$ 786,721.00
Hali-laran	2,404,547.00	\$ 2,544,597.50
Taibessi	407,162.98	\$ 365,308.43
Tasi ibun (Lecidere)	407,194.00	\$ 711,994.55
Total	4,058,146.65	\$ 4,566,509.53

5.1.3 Estimate dry season only:

Merkadu	Kg	(\$)
Becora	88,401.18	\$ 86,605.38
Comoro	385,932.75	\$ 656,671.50
Hali-laran	1,182,443.05	\$ 1,735,489.23
Taibessi	110,492.80	\$ 138,813.15
Tasi ibun (Lecidere)	308,602.03	\$ 641,795.93
Total	2,075,871.80	\$ 3,259,375.18

5.2 Analysis of types of vegetables for sale¹

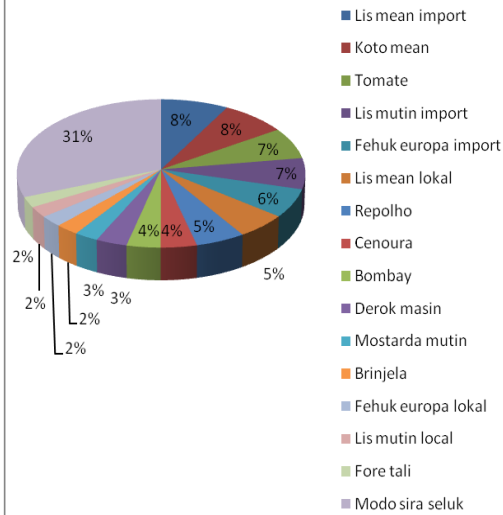
The analysis that follows is based on the one-day snapshot survey of 85% of all outdoor market vendors. It combines results from rainy season and dry season.

5.2.1.1 The top 15 vegetables in quantity and value:

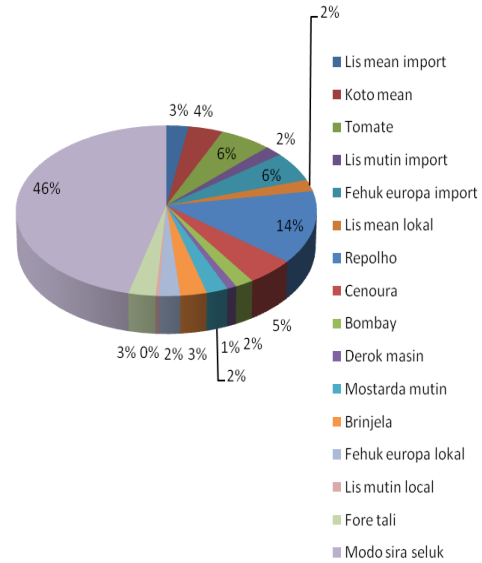
No	Modo	\$	Kg	% \$	% kg
1	Lis mean import	\$3,413.71	848.59	8%	3%
2	Koto mean	\$3,307.25	1,325.83	8%	4%
3	Tomate	\$2,929.03	1,978.48	7%	6%
4	Lis mutin import	\$2,900.18	670.19	7%	2%
5	Fehuk europa import	\$2,678.08	1,911.57	6%	6%
6	Lis mean local	\$2,310.17	750.46	5%	2%
7	Repolho	\$2,262.15	4,606.63	5%	14%
8	Cenoura	\$1,643.75	1,646.00	4%	5%
9	Bombay	\$1,547.36	635.33	4%	2%
10	Derok masin	\$1,427.98	326.55	3%	1%
11	Mostarda mutin	\$1,085.00	736.47	3%	2%
12	Brinjela	\$1,050.84	898.97	2%	3%
13	Fehuk europa lokal	\$1,031.84	708.52	2%	2%
14	Lis mutin local	\$997.75	122.45	2%	0%
15	Fore tali	\$987.75	924.78	2%	3%
16	Modo sira seluk	\$13,281.72	15,519.54	31%	46%
Total		\$42,854.56	33,610.36	100%	100%

¹ A translation guide is provided at the end of this document.

% Modo nebe maka hetan osan (\$) barak liu durante loron ida iha merkadu Dili laran



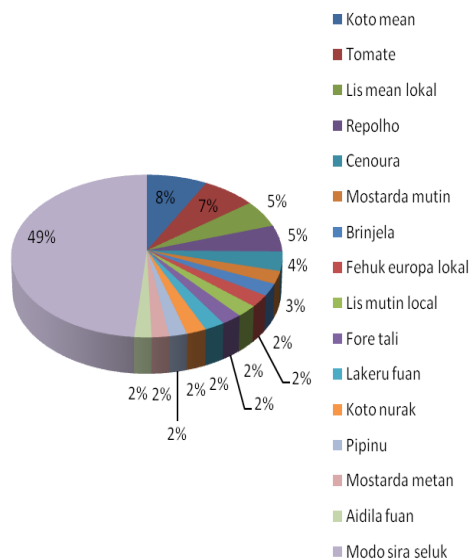
% kuantidade (kg) husi modo nebe maka hetan osan (\$) barak liu durante loron ida iha merkadu Dili laran



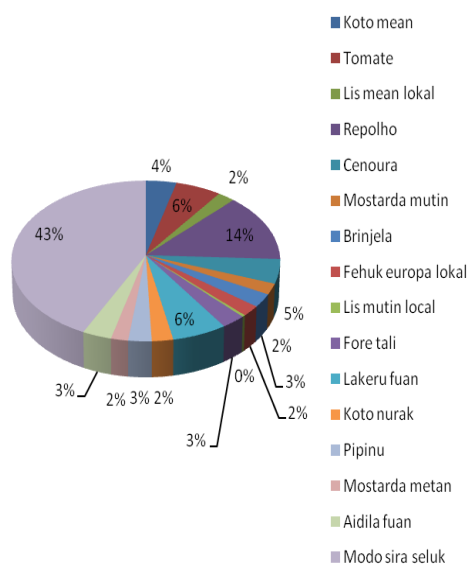
5.2.2 Top 15 vegetables in quantity and value – domestic production only:

No	Modo	\$	Kg	% \$	% kg
1	Koto mean	\$3,307.25	1,325.83	8%	4%
2	Tomate	\$2,929.03	1,978.48	7%	6%
3	Lis mean local	\$2,310.17	750.46	5%	2%
4	Repolho	\$2,262.15	4,606.63	5%	14%
5	Cenoura	\$1,643.75	1,646.00	4%	5%
6	Mostarda mutin	\$1,085.00	736.47	3%	2%
7	Brinjela	\$1,050.84	898.97	2%	3%
8	Fehuk europa lokal	\$1,031.84	708.52	2%	2%
9	Lis mutin local	\$997.75	122.45	2%	0%
10	Fore tali	\$987.75	924.78	2%	3%
11	Lakeru fuan	\$962.06	2,078.68	2%	6%
12	Koto nurak	\$948.36	807.26	2%	2%
13	Pipinu	\$851.16	882.01	2%	3%
14	Mostarda metan	\$839.25	648.07	2%	2%
15	Aidila fuan	\$824.39	1,106.33	2%	3%
16	Modo sira seluk	\$20,823.81	14,389.42	49%	43%
Total		\$42,854.56	33,610.36	100%	100%

% Modo sira nebe produs iha rai laran nebe hetan osan (\$) barak liu durante loron ida iha merkadu Dili laran



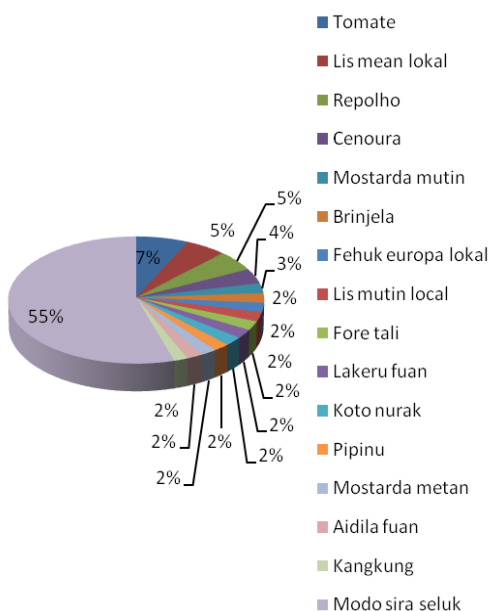
% kuantidade (kg) modo nebe produs iha rai laran nebe hetan osan (\$) barak liu durante loron ida iha merkadu Dili laran



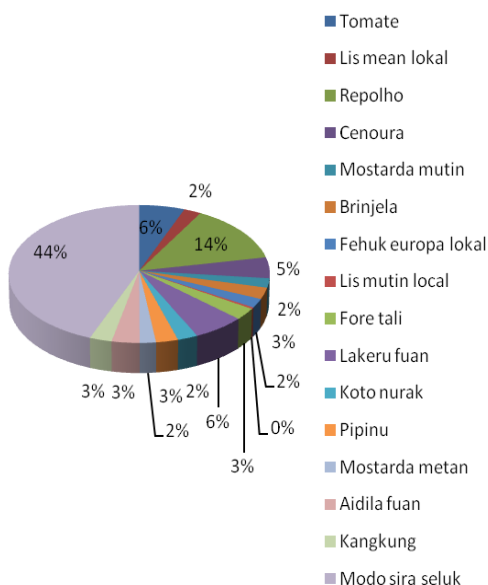
5.2.3 Top 15 vegetables by quantity and value, not including red beans: Since red beans represent a large percentage of vegetable sales, it is interesting to see the results without red beans.

No	Modo	\$	Kg	% \$	% kg
1	Tomate	\$2,929.03	1,978.48	7%	6%
2	Lis mean lokal	\$2,310.17	750.46	5%	2%
3	Repolho	\$2,262.15	4,606.63	5%	14%
4	Cenoura	\$1,643.75	1,646.00	4%	5%
5	Mostarda mutin	\$1,085.00	736.47	3%	2%
6	Brinjela	\$1,050.84	898.97	2%	3%
7	Fehuk europa lokal	\$1,031.84	708.52	2%	2%
8	Lis mutin lokal	\$997.75	122.45	2%	0%
9	Fore tali	\$987.75	924.78	2%	3%
10	Lakeru fuan	\$962.06	2,078.68	2%	6%
11	Koto nurak	\$948.36	807.26	2%	2%
12	Pipinu	\$851.16	882.01	2%	3%
13	Mostarda metan	\$839.25	648.07	2%	2%
14	Aidila fuan	\$824.39	1,106.33	2%	3%
15	Kangkung	721.65	888.90	2%	3%
16	Modo sira seluk	\$23,409.41	14,826.35	55%	44%
Total		\$42,854.56	33,610.36	100%	100%

% modo sira nebe produs iha rai laran la inklui koto mean, nebe hetan osan (\$) barak liu durante loron ida iha merkadu Dili laran

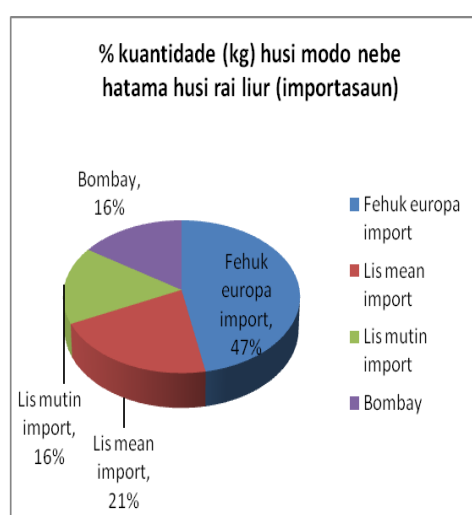
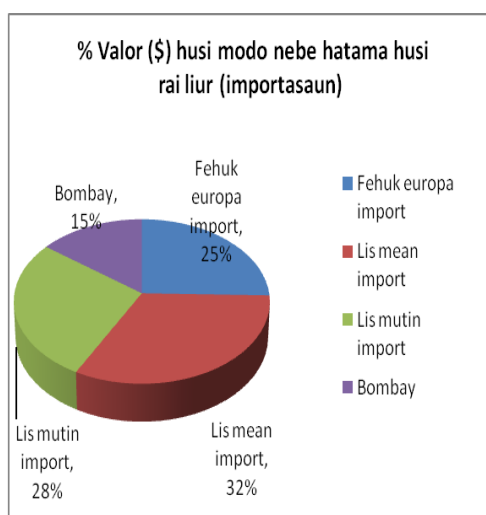


% kuantidade (kg) modo sira nebe produs iha rai laran la inklui koto mean, nebe hetan osan (\$) barak liu durante loron ida iha merkadu Dili laran



5.2.4 Quantity and value of imported vegetables:

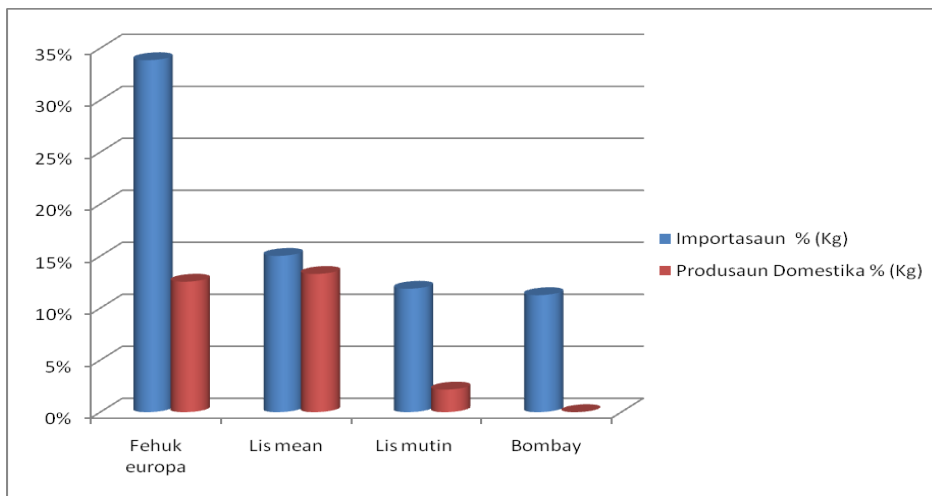
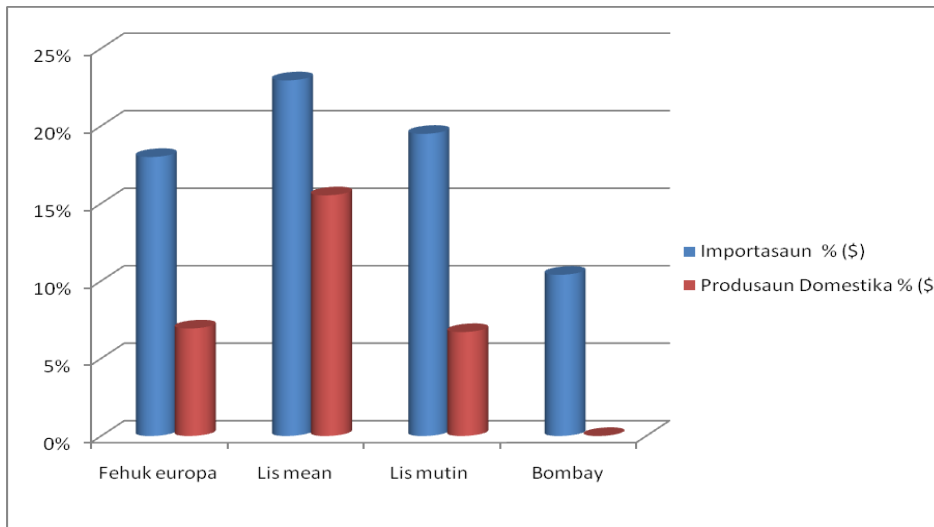
No	Modo	\$	kg	% (\$)	% (kg)
1	Fehuk europa import	\$2,678.08	1,911.57	25%	47%
2	Lis mean import	\$3,413.71	848.59	32%	21%
3	Lis mutin import	\$2,900.18	670.19	28%	16%
4	Bombay import	\$1,547.36	635.33	15%	16%
	Total	\$10,539.33	4,065.68	100%	100%



5.2.5 Comparison of vegetables that are both produced domestically and imported:

Tabela no Grafiku 3.2.5 % Valor (\$) husi modo nebe hatama husi rai liur (importasaun) kompara ho produsaun domestika ba modo nebe hanesan

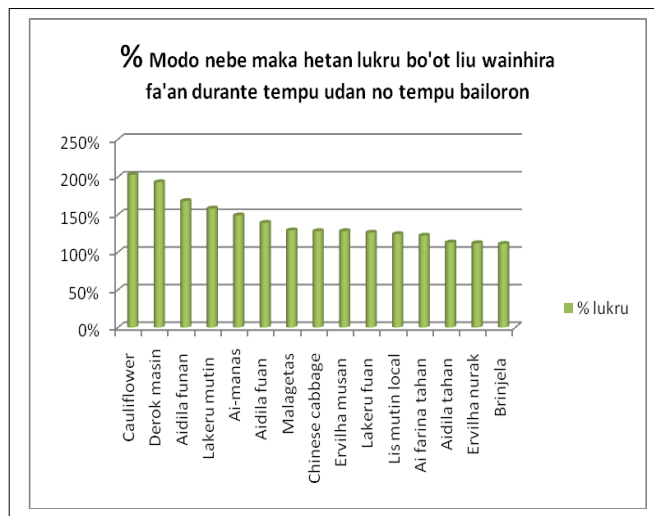
No	Modo	Importasaun		Produsaun Domestika		Importasaun		Produsaun Domestika	
		\$	kg	\$	kg	% (\$)	% (kg)	% (\$)	% (kg)
1	Fehuk europa	\$2,678.08	1,911.57	\$1,031.84	708.52	18%	34%	7%	13%
2	Lis mean	\$3,413.71	848.59	\$2,310.17	750.46	23%	15%	16%	13%
3	Lis mutin	\$2,900.18	670.19	\$997.75	122.45	19%	12%	7%	2%
4	Bombay	\$1,547.36	635.33	0	0	10%	11%	0%	0%
	Total	\$10,539.33	4,065.68	\$4,339.76	1,581.43	71%	72%	29%	28%



5.2.6 Top 15 vegetables by gross margin:²

Tabela no Grafiku 3.2.6 % modo nebe hetan lukru diak liu wainhira fa'an durante tempu udan no tempu bailoron

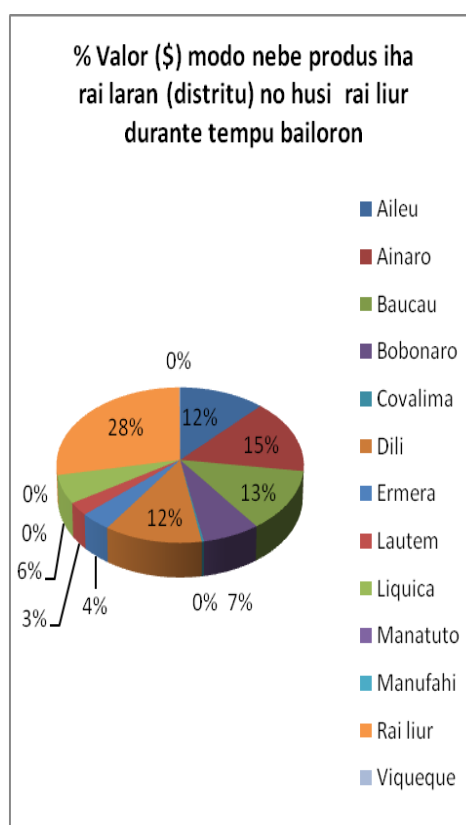
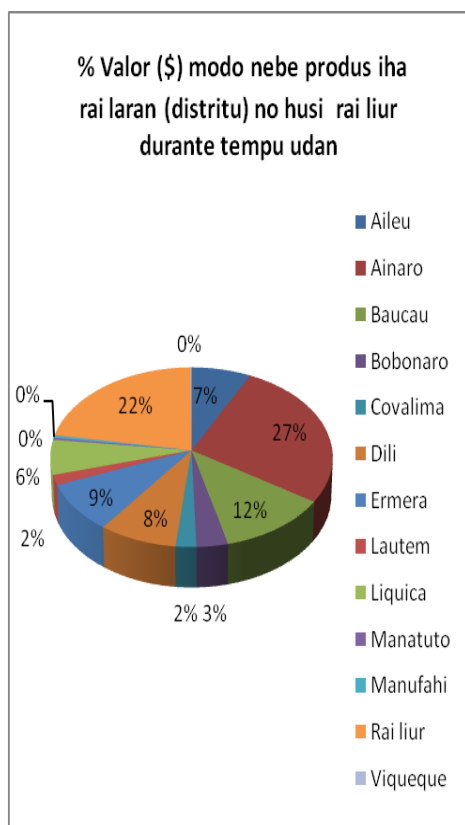
No	Modo	% lukru
1	Cauliflower	203%
2	Derok masin	193%
3	Aidila funan	168%
4	Lakeru mutin	158%
5	Ai-manas	149%
6	Aidila fuan	139%
7	Malagetas	129%
8	Chinese cabbage	128%
9	Ervilha musan	128%
10	Lakeru fuan	126%
11	Lis mutin local	124%
12	Ai farina tahan	122%
13	Aidila tahan	113%
14	Ervilha nurak	112%
15	Brinjela	111%

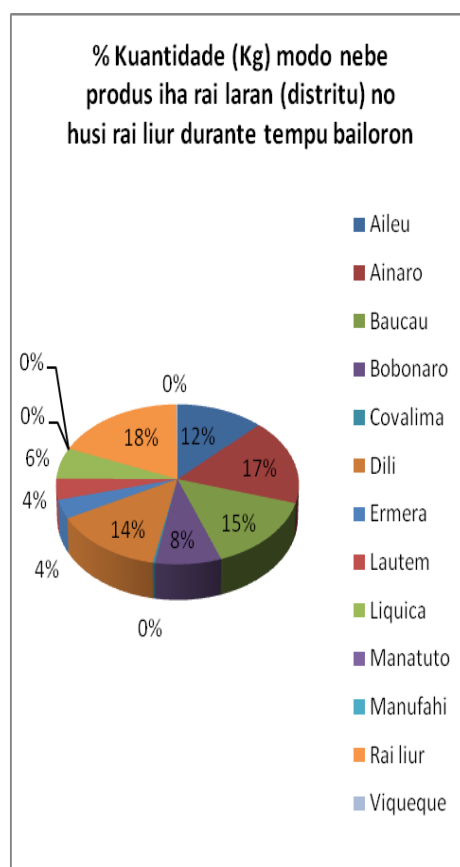
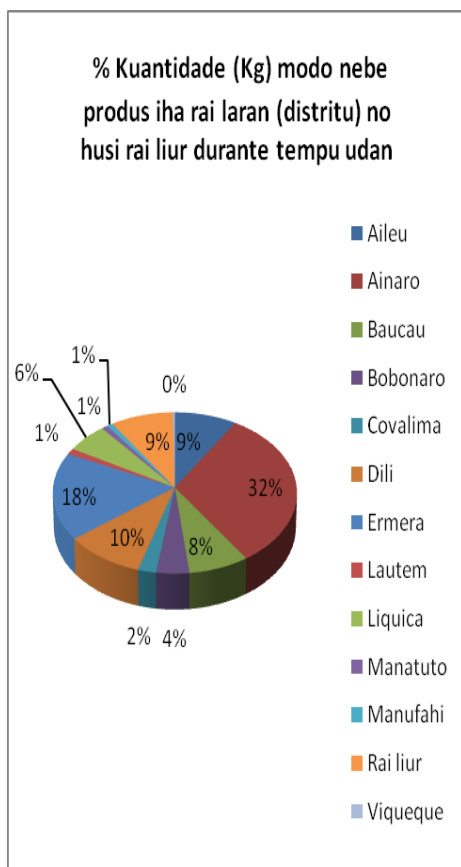


² Only one instance of cauliflower was found

5.2.7 District / Import origin of all vegetables (according to vendor reporting)

No	Distritu	Tempu Udan		Tempu Bailoron		Tempu Udan		Tempu Bailoron	
		\$	Kg	\$	Kg	% (\$)	% (Kg)	% (\$)	% (Kg)
1	Aileu	\$1,836.13	1,952.53	\$2,136.38	1,412.44	7%	9%	12%	12%
2	Ainaro	\$6,750.99	7,093.32	\$2,739.99	1,976.32	27%	32%	15%	17%
3	Baucau	\$2,958.38	1,675.30	\$2,277.66	1,674.43	12%	8%	13%	15%
4	Bobonaro	\$838.47	912.14	\$1,257.25	940.89	3%	4%	7%	8%
5	Covalima	\$551.00	502.50	\$48.75	32.15	2%	2%	0%	0%
6	Dili	\$2,082.90	2,206.60	\$2,152.71	1,592.96	8%	10%	12%	14%
7	Ermera	\$2,204.08	3,908.00	\$677.16	431.84	9%	18%	4%	4%
8	Lautem	\$449.50	266.71	\$485.13	481.86	2%	1%	3%	4%
9	Liquica	\$1,566.14	1,302.71	\$1,061.71	719.76	6%	6%	6%	6%
10	Manatuto	\$97.00	192.79	\$0.00	0.00	0%	1%	0%	0%
11	Manufahi	\$120.00	188.52	\$0.00	0.00	0%	1%	0%	0%
12	Rai liur	\$5,536.88	1,974.62	\$5,002.45	2,091.06	22%	9%	28%	18%
13	Viqueque	\$30.50	60.68	\$20.40	20.93	0%	0%	0%	0%
Total		\$25,021.97	22,236.42	\$17,859.59	11,374.64	100%	100%	100%	100%





5.2.8 District origin of specific vegetables (according to vendor reporting)

Tabela no Grafiku 3.4.1 Distritu ida nebe maka produs “Aidila-funan” ho % (kg) kuantidade barak liu iha tempu udan no tempu bailoron

No	Distritu	Modo			
		Aidila-funan			
		\$	kg	%(\$)	%(kg)
1	Aileu	\$2.50	0.28	1%	0%
2	Ainaro	\$0.00	0.00	0%	0%
3	Baucau	\$3.00	0.69	1%	0%
4	Covalima	\$0.00	0.00	0%	0%
5	Dili	\$216.50	128.37	89%	85%
6	Ermera	\$15.00	17.70	6%	12%
7	Lautem	\$0.00	0.00	0%	0%
8	Liquica	\$5.00	3.93	2%	3%
9	Maliana	\$1.00	0.11	0%	0%
10	Manatutu	\$0.00	0.00	0%	0%
11	Manufahi	\$0.00	0.00	0%	0%
12	Viqueque	\$0.00	0.00	0%	0%
Total		\$243.00	151.08	100%	100%

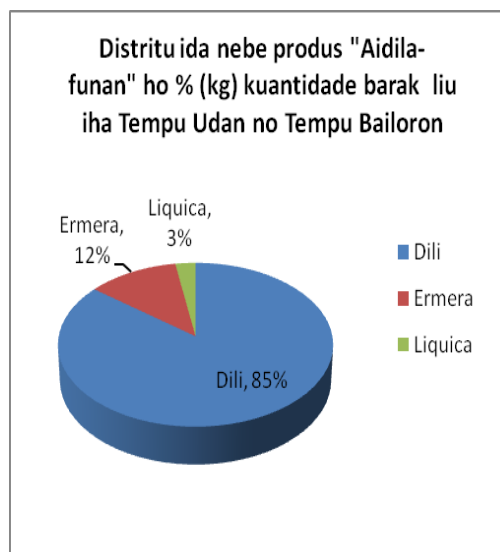


Tabela no Grafiku 3.4.2 Distritu ida nebe maka produs “Baria” ho % (kg) kuantidade barak liu iha tempu udan no tempu bailoron

No	Distritu	Modo			
		Baria			
		\$	kg	% (\$)	% (kg)
1	Aileu	\$80.50	64.15	15%	17%
2	Ainaro	\$0.00	0.00	0%	0%
3	Baucau	\$229.00	156.59	42%	40%
4	Covalima	\$0.00	0.00	0%	0%
5	Dili	\$29.00	41.94	5%	11%
6	Ermera	\$4.66	15.00	1%	4%
7	Lautem	\$0.00	0.00	0%	0%
8	Liquica	\$150.39	42.72	27%	11%
9	Maliana	\$56.50	67.58	10%	17%
10	Manatutu	\$0.00	0.00	0%	0%
11	Manufahi	\$0.00	0.00	0%	0%
12	Viqueque	\$0.00	0.00	0%	0%
	Total	\$550.05	387.98	100%	100%

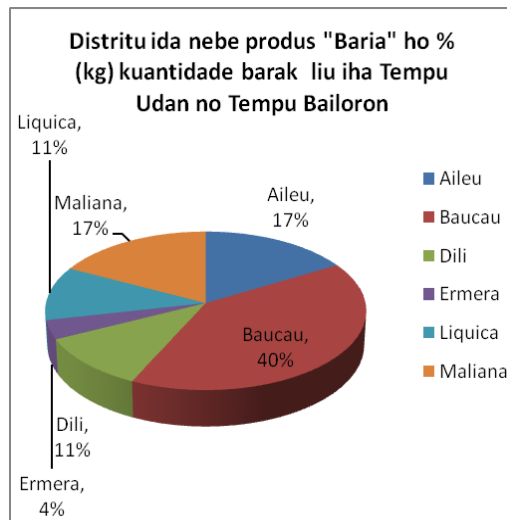


Tabela no Grafiku 3.4.3 Distritu ida nebe maka produs “Bayaun” ho % (kg) kuantidade barak liu iha tempu udan no tempu bailoron

No	Distritu	Modo			
		Bayaun			
		\$	kg	% (\$)	% (kg)
1	Aileu	\$40.00	32.02	9%	10%
2	Ainaro	\$0.00	0.00	0%	0%
3	Baucau	\$6.00	4.45	1%	1%
4	Covalima	\$0.00	0.00	0%	0%
5	Dili	\$333.00	242.53	76%	78%
6	Ermera	\$15.00	17.70	3%	6%
7	Lautem	\$0.00	0.00	0%	0%
8	Liquica	\$25.50	10.72	6%	3%
9	Maliana	\$18.00	5.31	4%	2%
10	Manatutu	\$0.00	0.00	0%	0%
11	Manufahi	\$0.00	0.00	0%	0%
12	Viqueque	\$0.00	0.00	0%	0%
	Total	\$437.50	312.73	100%	100%

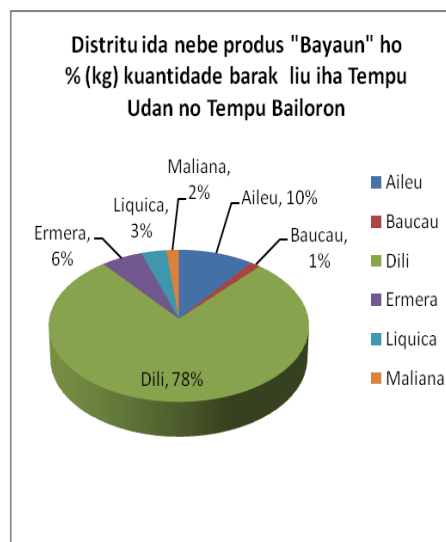


Tabela no Grafiku 3.4.4 Distritu ida nebe maka produs “**Brinjela**” ho % (kg) kuantidade barak liu iha tempu udan no tempu bailoron

No	Distritu	Modo			
		Brinjela			
		\$	kg	% (\$)	% (kg)
1	Aileu	\$77.48	77.18	7%	9%
2	Ainaro	\$0.00	0.00	0%	0%
3	Baucau	\$49.50	41.32	5%	5%
4	Covalima	\$0.00	0.00	0%	0%
5	Dili	\$760.76	647.33	72%	72%
6	Ermera	\$2.00	3.08	0%	0%
7	Lautem	\$53.30	44.99	5%	5%
8	Liquica	\$32.00	23.47	3%	3%
9	Maliana	\$75.80	61.60	7%	7%
10	Manatutu	\$0.00	0.00	0%	0%
11	Manufahi	\$0.00	0.00	0%	0%
12	Viqueque	\$0.00	0.00	0%	0%
	Total	\$1,050.84	898.97	100%	100%

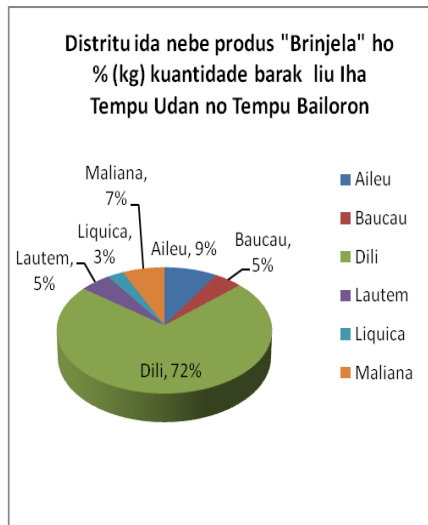


Tabela no Grafiku 3.4.5 Distritu ida nebe maka produs “**Cenoura**” ho % (kg) kuantidade barak liu iha tempu udan no tempu bailoron

No	Distritu	Modo			
		Cenoura			
		\$	kg	% (\$)	% (kg)
1	Aileu	\$291.69	235.13	18%	14%
2	Ainaro	\$1,224.36	1265.64	74%	77%
3	Baucau	\$36.70	25.62	2%	2%
4	Covalima	\$0.00	0.00	0%	0%
5	Dili	\$19.00	26.68	1%	2%
6	Ermera	\$57.00	76.15	3%	5%
7	Lautem	\$0.00	0.00	0%	0%
8	Liquica	\$5.00	3.93	0%	0%
9	Maliana	\$10.00	12.85	1%	1%
10	Manatutu	\$0.00	0.00	0%	0%
11	Manufahi	\$0.00	0.00	0%	0%
12	Viqueque	\$0.00	0.00	0%	0%
	Total	\$1,643.75	1646.00	100%	100%

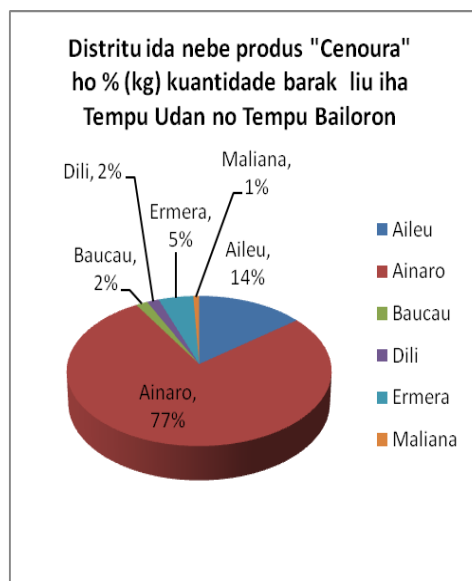


Tabela no Grafiku 3.4.6 Distritu ida nebe maka produs “Koto-mean” ho % (kg) kuantidade barak liu iha tempu udan no tempu bailoron

No	Distritu	Modo			
		Koto-mean			
		\$	kg	% (\$)	% (kg)
1	Aileu	\$158.00	66.83	5%	5%
2	Ainara	\$2,678.00	1058.48	81%	80%
3	Baucau	\$2.50	1.38	0%	0%
4	Covalima	\$0.00	0.00	0%	0%
5	Dili	\$85.00	39.15	3%	3%
6	Ermera	\$336.75	146.20	10%	11%
7	Lautem	\$15.00	8.15	0%	1%
8	Liquica	\$32.00	5.44	1%	0%
9	Maliana	\$0.00	0.00	0%	0%
10	Manatutu	\$0.00	0.00	0%	0%
11	Manufahi	\$0.00	0.00	0%	0%
12	Viqueque	\$0.00	0.00	0%	0%
	Total	\$3,307.25	1325.63	100%	100%

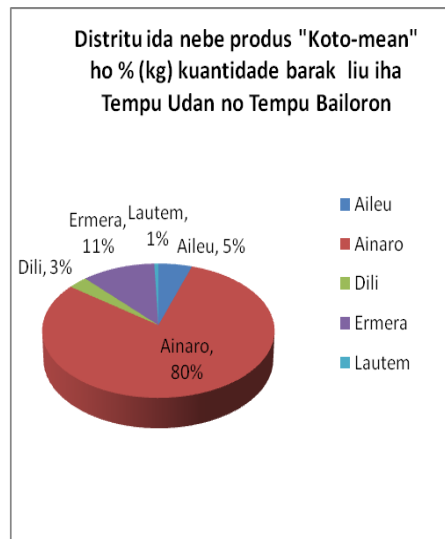


Tabela no Grafiku 3.4.7 Distritu ida nebe maka produs “Mostarda metan/mutin” ho % (kg) kuantidade barak liu iha tempu udan no tempu bailoron

No	Distritu	Modo			
		Mostarda metan/mutin			
		\$	kg	% (\$)	% (kg)
1	Aileu	\$589.75	429.55	31%	30%
2	Ainara	\$142.50	90.60	7%	6%
3	Baucau	\$264.50	157.20	14%	11%
4	Covalima	\$0.00	0.00	0%	0%
5	Dili	\$820.00	607.83	42%	43%
6	Ermera	\$51.14	76.64	3%	5%
7	Lautem	\$40.50	31.19	2%	2%
8	Liquica	\$0.00	0.00	0%	0%
9	Maliana	\$22.86	35.51	1%	2%
10	Manatutu	\$0.00	0.00	0%	0%
11	Manufahi	\$0.00	0.00	0%	0%
12	Viqueque	\$0.00	0.00	0%	0%
	Total	\$1,931.25	1428.52	100%	100%

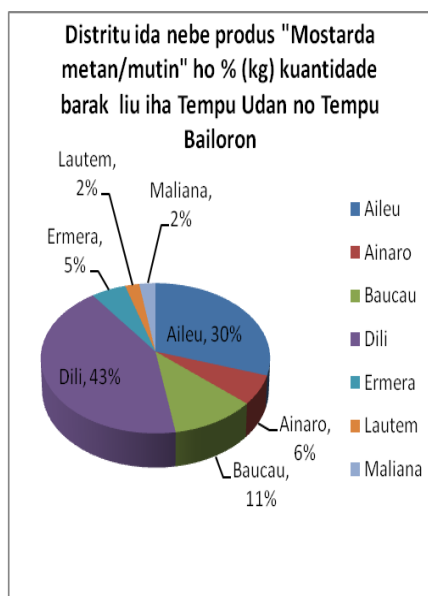
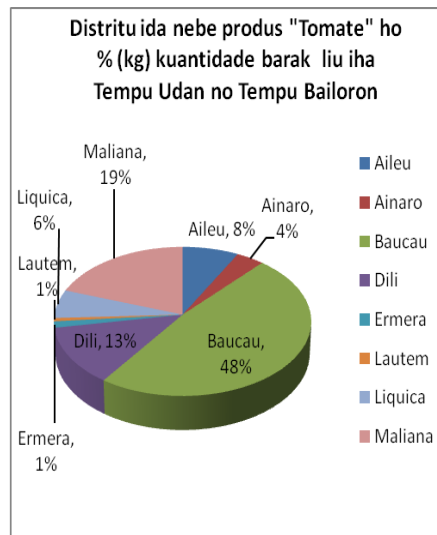


Tabela no Grafiku 3.4.8 Distritu ida nebe maka produs “Tomate” ho % (kg) kuantidade barak liu iha tempu udan no tempu bailoron

No	Distritu	Modo			
		Tomate			
		\$	kg	% (\$)	% (kg)
1	Aileu	\$163.58	152.28	6%	8%
2	Ainaro	\$16.98	75.35	1%	4%
3	Baucau	\$1,589.84	950.04	54%	48%
4	Covalima	\$0.00	0.00	0%	0%
5	Dili	\$286.22	247.79	10%	13%
6	Ermera	\$72.89	27.18	2%	1%
7	Lautem	\$40.00	13.80	1%	1%
8	Liquica	\$392.02	122.49	13%	6%
9	Maliana	\$365.10	385.41	12%	19%
10	Manatutu	\$0.00	0.00	0%	0%
11	Manufahi	\$0.00	0.00	0%	0%
12	Viqueque	\$2.40	4.14	0%	0%
	Total	\$2,929.03	1978.48	100%	100%



VI. Imported Fresh Vegetables

Data from the Ministry of Finance Directorate-General of Customs shows that in 2010-2011, imported fresh vegetables totalled 10,288,195 kilos.

Vegetable Imports 2010-2011	
Ministry of Finance Directorate General of Customs	
Vegetable	KGS
Broccoli/Cauliflower fresh	1,413,898
Tomato fresh	1,138,579
Mushrooms fresh	753,388
Onions/shallots fresh	735,755
Carrots fresh	708,182
Peas fresh	697,380
Cucumber fresh	687,619
Lettuces fresh	673,539
Celery fresh	619,621
Potato fresh	609,639
Beans fresh	494,630
Garlic fresh	268,145
Beetroot fresh	230,387
Asparagus fresh	118,469
Cabbages fresh	73,697
Capsicum fresh	52,811
Other vegetables	11,860
Leeks fresh	4,464
Spinach fresh	882
Other vegetables fresh	995,250
TOTAL	10,288,194

VII. Conclusion

- a. There is a good market opportunity for domestic vegetable production and sales:
 - i. Demand for vegetables is larger than supply. We see that almost 100% of the vegetables sell very quickly. Prices for vegetables are high, and vegetable vendors earn good incomes. If Timor-Leste can produce more vegetables, more farmers and vendors can earn good incomes. When supply increases, prices should go down, and more consumers will be able to buy vegetables and improve their nutrition.
 - ii. 741 tonnes of imported product is sold in the outdoor markets annually. An additional 4,000-5,000 tonnes are imported and sold through other channels. More of the imported product can be produced in Timor Leste.
 - iii. The largest quantity of imported vegetables are broccoli, cauliflower, tomato, mushrooms, onions and carrots. The largest quantity of imported vegetables sold in the outdoor markets are potato, onion and garlic. These are good market opportunities for domestic production, trading and sales.
- b. Vegetable sales are seasonal. A much larger quantity is available for sale during the wet season and prices are lower. Supply shrinks and prices rise during the dry season. Maintaining more

continuous supply during dry season, for example through drip irrigation and more intensive planting in areas with abundant water, is key to increasing production and sales.

- i. Rainy season sales 4,058,146.65 kg (4,058 tonnes) with value \$4,566,510. Average price per kilo \$1.12.
 - ii. Dry season sales 2,075,871.80 kg (2,075 tonnes) with value \$3,259,375.18. Average price per kilo \$1.57.
- c. Improving vegetable production can initially focus on 5-6 Districts serving the Dili markets:
 - i. Rainy season origin of vegetables: Ainaro (32%), Ermera (18%), Dili (10%), Aileu (9%), Baucau (8%) and Liquica (6%).
 - ii. Dry season origin of vegetables: Ainaro (17%), Baucau (15%), Dili (14%), Aileu (12%), Bobonaro (8%) and Liquica (6%).
- d. Additional research is needed to better understand markets in the other Districts
- e. Knowing which vegetables are produced in which Districts can help traders to identify sources of supply and can help MAF and donors to target technical assistance:
 - i. Bitter Gourd: Baucau (40%), Aileu (17%), Maliana (17%), Dili (11%), Liquica (11%), Ermera (4%).
 - ii. Spinach: Dili (78%), Aileu (10%), Ermera (6%), Liquica (3%) no Maliana (2%).
 - iii. Eggplant: Dili (72%), Aileu (9%), Maliana (7%), Baucau (5%), Lautem (5%), Liquica (3%).
 - iv. Carrot: Ainaro (77%), Aileu (14%), Ermera (5%), Baucau (2%), Dili (2%), Maliana (1%).
 - v. Red Beans: Ainaro (80%), Ermera (11%), Aileu (5%), Dili (3%), Lautem (1%).
 - vi. Mustard leaf: Dili (43%), Aileu (30%), Baucau (11%), Ainaro (6%), Ermera (5%), Lautem (2%), Maliana (2%).
 - vii. Tomato: Baucau (48%), Maliana (19%), Dili (13%), Aileu (8%), Liquica (6%), Ainaro (4%), Ermera (1%), Lautem (1%).

Vegetable Translation Guide	
Tetum	English
Abakate	Avocado
Agriaun	Watercress
Ai farina tahan	Cassava leaf
Ai-ata	Soursop
Aidila fuan	Papaya fruit (green)
Aidilia funan	Papaya flower
Aidila tahan	Papaya leaf
Ai-manas	Chili
Alfase	Lettuce
Baria	Bitter gourd
Bayaun	Spinach (Australian type)
Bombay	Yellow onion
Brinjela	Eggplant
Cenoura	Carrot
Chinese cabbage	Chinese cabbage
Cowliflower	Cauliflower
Derok masin	Lime
Ervilha musan	Snow peas (out of shell)
Ervilha nurak	Snow peas (in shell)
Fehuk europa import	White potato (import)
Fehuk europa local	White potato (domestic)
Fore tali	Long beans
Hudi dubun	Banana flower
Kangkung	Water spinach / Morning glory
Koto mean	Red beans (dried)
Koto nurak	Green beans
Lakeru dikin	Pumpkin leaf
Lakeru fuan	Pumpkin
Lakeru mutin	Chayote
Lis mean import	Red onion (import)
Lis mean local	Red onion (local)
Lis mutin import	Garlic (import)
Lis mutin local	Garlic (local)
Lis tahan	Spring onion
Malagetas	Large chili
Melansia	Watermelon
Mostarda metan	Mustard leaf black
Mostarda mutin	Mustard leaf white
Pak choy	Bok choy
Pimentaun	Capsicum (bell pepper)
Pipinu	Cucumber
Repolho	Cabbage
Ruku	Basil
Salsa	Parsley
Talas isin	Yam
Tomate	Tomato